

ABSTRACT OF THE DISCLOSURE

In order to adjust an orbit of ion beam scanned by a magnetic field, the ion beam having a specified mass is extracted by deflecting the ion beam 100 from the ion source 100 along a XZ surface with the mass separator 12, this ion beam 100 is accelerated with the after-acceleration pipe 16, and this ion beam 100 is scanned along XZ surface by changing the magnetic field strength in time with the electromagnet 18. The scanned ion beam 100 is corrected its scan angle in a scan surface of the ion beam 100 by changing the magnetic field strength in time with the electromagnet 20 for the angle correction, and the corrected ion beam 100 is implanted into the wafer 34.